



Disinfection

September 2016

Background

The Group A rule includes varying disinfection requirements that were previously adopted to address specific water quality issues or to align with federal rule requirements. Through the review of the rules, the department identified areas that could be improved, including:

- Revisions to clarify the triggers for continuous source disinfection.
- Revisions to monitoring and reporting requirements to provide flexibility.
- Sets new requirements for systems that desalinate seawater using reverse osmosis.
- Clarifies the criteria for treatment techniques and reporting violations.

Source water—continuous disinfection

The current rule requires water systems to add disinfection for sources in hydraulic connection to surface water, a history of unsatisfactory source coliform sampling, or a microbial contaminant threat within the sanitary control area. The current rule does not address microbial risks to source water quality caused by specific issues related to the source itself. The proposed rule clarifies what types of conditions may pose a threat to the source. When a susceptibility assessment, sanitary survey, or special purpose investigation reveals a source is at risk of microbial contamination, the water system must provide continuous disinfection. Risks include, but are not limited to:

- A poorly constructed source.
- An inadequate surface seal.
- High groundwater.
- Lack of confining layers in the aquifer.
- A Shallow source.
- A drilled well in fractured bedrock.
- A source at risk of flooding.

Desalination of seawater water by reverse osmosis

The proposed rule establishes a new disinfection requirement for water systems that desalinate seawater with Reverse Osmosis (RO). Studies show that RO cannot guarantee adequate removal of viruses. The proposed rule requires continuous disinfection that meets a Concentration Time equal to six, or CT6, which will adequately inactivate viruses for seawater sources that are treated using RO. This improvement will better protect against outbreaks of illnesses caused by water-borne viruses.

Monitoring

The proposed rule changes the frequency of monitoring disinfectant concentration at the point of entry to the distribution system to “at least once per day, five days per week or each day that water is supplied by the treatment plant if it operates less than daily.”

The current requirement specifies “at least every Monday through Friday (except holidays) that water is supplied.” This change allows systems more flexibility of when to monitor, but keeps the requirement for five days a week and recognizes that some treatment plants do not operate daily.

The proposed rule requires systems to use an Environmental Protection Agency-approved method, such as a digital colorimeter, to measure free chlorine residual and disallows the use of test strips because they are not considered accurate enough to determine compliance. The rule also adds an allowance to use color wheels for distribution residual measurements, but the color wheel remains unapproved to measure residuals for source treatment.

The proposed rule adds a definition for “detectable residual disinfectant concentration” to mean 0.2 mg/L of free chlorine, total chlorine, or combined chlorine and removes the option for groundwater systems to use the Heterotrophic Plate Count method. The proposed rule requires systems to maintain a detectable residual disinfectant concentration (as defined) in all active parts of the distribution system unless the department approves a written request to use a lower value. The request must identify the instrument used to measure chlorine residual and include the manufacturer’s documentation of the accuracy to measure the lower value.

For More Information

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